

**Identification of the  
gamma transitions in Tc and Cs products of  $^{252}\text{Cf}$  fission  
and  
possible  $7/2^+$  [413] bands in  $^{105-109}\text{Tc}$  isotopes\***

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Several gamma transitions in  $^{105-109}\text{Tc}$  nuclei were identified for the first time from spontaneous fission studies with a  $^{252}\text{Cf}$  source and the Gammasphere. New level schemes are proposed and related to the underlying nuclear structure. Positive parity bands with a large signature splitting observed in  $^{105,107,109}\text{Tc}$  are evidently derived from  $g_{9/2}$  orbitals and are similar to analogous bands in  $^{103}\text{Rh}$ ,  $^{103}\text{Ag}$ , and  $^{99}\text{Y}$ . New gamma transitions have also been identified in  $^{139-143}\text{Cs}$  and used to construct level schemes for these isotopes. Correlated-pair fission yields extracted from the data show an appreciable field for the zero neutron  $^{109}\text{Tc}$  -  $^{143}\text{Cs}$  pair.

*Footnotes and References*

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